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EXAMINER
MARCELO, M

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DATE MAILED: 09/03/93

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____.

Part II SUMMARY OF ACTION

1. ☒ Claims 1-18 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-18 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☒ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application apppears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Part III DETAILED ACTION

Response to Amendment

1. Applicants have referred to the specification in defining the terms "service class field" (specification page 19, lines 1-4) and "protocol class field" (specification page 20, lines 5-6). Accordingly, the Examiner takes the position that the broadest reasonable definition for these terms in view of the specification are "service class field" - a field pertaining to queues, and "protocol class field" - a user-assignable field (see specification page 20, lines 13-14).

2. Applicant's arguments with respect to claims 1-18 have been considered but are deemed to be moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

3. Claims 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 11-12, and claim 10, lines 15-16, "said message packet servicing" lacks a proper antecedent basis.

Claim Rejections - 35 USC § 103

4. Claims 1, 3, 4, 10, 12, 13, 20, 21, 23, and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui et al.('Tsutsui') in view of Haas.

Tsutsui teaches a packet data communication network with network transfer devices (Bridge Apparatuses) between first and second network segments (LANs) and a switching device (Backbone Network). See Figure 3. The network transfer devices adds and removes a second header containing source and destination switch addresses (Figure 8B). The destination address (MAC address) contains 6 bytes, while the switch address (BBN node address) contains 1 byte (column 4, lines 7-17).

Tsutsui does not teach the second header further including local status information and a plurality of status fields to indicate message packet servicing, and the switching device responding to the local status information and the plurality of status fields.

However, adding local status information through a plurality of status fields in the header to indicate message packet servicing is well known in the art. Haas teaches the use of these status fields to carry local status information such as flow control, congestion control, and retransmission to provide message packet servicing in a packet data communications network (figure 4 and column 5, line 53 to column 6, line 22). The

additional fields can be considered as a "protocol class field" (claims 20 and 23) in that the additional local status information includes adaptive specification of the actual protocol to be used (column 7, line 43 to column 8, line 18). The congestion control field can be considered as the "local congestion status field" (claims 21 and 24) since it pertains to congestion information.

Furthermore, Haas explicitly suggests adding these fields to a packet header as an option (figure 8 and column 9, lines 19-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a plurality of status fields in the second header of Tsutsui to indicate additional message packet servicing to be performed in the switching device, since Haas explicitly suggests adding such fields to a packet header as an option for message packet servicing in a packet data communications network.

5. Claims 2, 5, 11, and 14 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui and Haas as applied to claims 1, 4, 10, and 13, respectively above, and further in view of Schroeder et al. ('Schroeder').

Tsutsui teaches a switching device (BBN 5) comprising switching nodes. Tsutsui does not teach the use of a crossbar

switch as the switching device, and source and destination link numbers in the second header.

Schroeder teaches the use of a crossbar switch in the same field of endeavor for providing the switching function in a network comprising switching nodes (Figures 2 and 8). Additionally, use of source and destination link numbers are associated with Schroeder's crossbar switch (column 27, lines 4-8, and column 28, lines 11-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a crossbar switch and its associated use of link numbers in Tsutsui's network switching nodes (BBN) since Schroeder teaches the use of a crossbar switch in such a network of switching nodes.

6. Claims 6 and 15 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui, Haas and Schroeder as applied to claims 5 and 14 above, and further in view of Takada et al. 5,220,562 ('Takada').

In Tsutsui, the network segments (LANs) are connected to the Backbone network. Tsutsui does not teach the use of serial FDDI link for the first network segment (LAN). Schroeder does teach that the ports to a crossbar switch are parallel.

In the same field of endeavor, Takada teaches that the network segments (LANs) connected to the Backbone network can be serial FDDI links (Figure 1).

Therefore, it would have been obvious to use serial FDDI links for the network segments (LANs) in Tsutsui since Takada explicitly teaches such use.

7. Claims 7-9, and 16-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui, Haas, Schroeder, and Takada as applied to claims 6 and 15, respectively above, and further in view of Golestani.

Tsutsui and Haas do not teach the use of a service class field, which pertains to queues, in the packet header.

Golestani teaches the use of a service class field in a packet (loss priority class indicator p) for queue processing in a switch node in order to provide congestion control (column 4, lines 22-57). Golestani's teachings also is directed to a packet data communication network.

Therefore, it would have been obvious to incorporate a service class field in the second packet header in Tsutsui in order to provide congestion control in the switch nodes of the switching device.

The specified additional fields in claims 8, 9, 17, and 18 are taught by Haas as explained above.

8. Claims 19 and 22 are rejected under 35 U.S.C. § 103 as being unpatentable over Tsutsui in view of Golestani.

It would have been obvious to provide a service class field to Tsutsui in view of Golestani as indicated above.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is (703) 305-4373.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Melvin Marcelo
March 4, 1994